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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,888

08/18/2006

Hui Li

1454.1727

2449

21171 7590 12/08/2008
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EXAMINER

MAPA, MICHAEL Y

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

12/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,888	LI, HUI	
	Examiner	Art Unit	
	Michael Mapa	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 10/27/08 has been considered by the examiner.

Response to Amendment

2. The applicant has amended the following claims filed on 10/27/08:

Claims 1-8 has been cancelled.

Claims 9-19 has been amended.

With regards to the 101 rejection on claim 19 in the previous office action, the applicant has amended claim 19 to overcome the rejection, therefore the examiner withdraws the 101 rejection on claim 19.

Response to Arguments

3. Applicant's arguments with respect to claims 9-19 have been considered but are moot in view of the new ground(s) of rejection.

With regards to the applicants statement that Rogard et al. discloses antenna elements linked to a single base station and is to be contrasted with claim 9, which is directed to a plurality of network-side antennas that are distributed over a plurality of positions within a radio cell. The examiner respectfully disagrees, Rogard et al.

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discloses a plurality of antennas with a plurality of positions within a radio cell (Fig. 1 of Rogard et al.). As can be seen in Fig. 1, the plurality of antenna elements are distributed over a plurality of positions within the base station which is inside a radio cell. Therefore Rogard et al. discloses the claimed limitation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-11, 14 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogard et al. (US Patent 7062294 herein after referenced as Rogard) in view of Nakanishi et al. (US Patent Publication 2004/0053582 herein after referenced as Nakanishi).

Regarding claim 9, Rogard discloses “A method for communication in a radio communication system comprising mobile stations and network-side devices, the network-side devices comprising network-side antennas distributed over a plurality of positions within a radio cell” (Fig. 1 of Rogard). Rogard discloses “the method comprising: transmitting a request message that requests a mobile station to transmit a signaling message” (Column 24, Lines 14-16 of Rogard, wherein Rogard discloses the base station sending a paging message and the user responding with a random access

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request). Rogard discloses “the request message being transmitted via at least one network-side antenna” (Column 4, Lines 63-65 of Rogard, wherein Rogard discloses using a downlink transmission unit coupled to the antenna elements to transmit downlink data, therefore via at least one network-side antenna). Rogard discloses “the request message being transmitted to the mobile station and being used exclusively for requesting the signaling message” (Column 24, Lines 14-16 of Rogard). Rogard discloses “receiving the signaling message from the mobile station” (Column 24, Lines 15-16, wherein the mobile station responds to the paging message with a random access request). Rogard discloses “the signaling message being received by at least one of the network-side antennas” (Column 4, Lines 65-68 of Rogard, wherein Rogard discloses an uplink reception unit coupled to the antenna elements to receive an uplink signal from the remote terminal). Rogard discloses “and after receiving the signaling message, transmitting a user data message to the mobile station via a plurality of transmitting network-side antennas” (Column 24, Lines 15-18 of Rogard, wherein Rogard discloses receiving the random access request and responding with an access assignment message). Rogard discloses “the transmitting network-side antennas being selected” (Column 4, Lines 59-61 of Rogard, wherein Rogard discloses the downlink strategy to be determined based on the signals received at the antenna elements).

Rogard fails to explicitly recite “the transmitting network-side antennas being selected as only the network-side antennas that received the signaling message from the mobile station.”

In a related field of endeavor, Nakanishi discloses “the transmitting network-side antennas being selected as only the network-side antennas that received the signaling message from the mobile station” (Paragraph [0026] of Nakanishi, wherein Nakanishi discloses the antenna selector selecting the transmitting antenna that corresponds to the receiving antenna).

Therefore, it would have been obvious to one of ordinary to modify the invention of Rogard to incorporate the teachings of Nakanishi for the purpose of creating and maintaining good transmission quality (Paragraph [0015] & [0023] of Nakanishi).

Regarding claim 10, Rogard in view of Nakanishi discloses “The method according to claim 9, wherein the request message is sent at regular time intervals” (Column 16, Lines 46-50 of Rogard, wherein Rogard discloses the page towards the user terminal to be transmitted repeatedly to increase the probability that a user terminal at an unknown location receives the page).

Regarding claim 11, Rogard in view of Nakanishi discloses “The method in accordance with claim 9, wherein the request message is transmitted only when a certain period of time elapsed since the last transmission of a message of the same type as the request message” (Column 16, Lines 7-11 of Rogard, wherein Rogard discloses rescheduling and repeating the transmission of the page in the future after a first unsuccessful page).

Regarding claim 14, Rogard in view of Nakanishi discloses “The method in accordance with claim 9, wherein the request message is transmitted from a plurality of network-side antennas, and the plurality of network-side antennas used to transmit the

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request message all belong to a same radio cell” (Fig. 1 & Column 4, Lines 63-65 of Rogard, wherein Rogard discloses transmitting downlink data via the antenna elements and the network side antennas within the same radio cell).

Regarding claim 18, Rogard discloses “A network-side device in a radio communications system, which comprises network-side antennas distributed over a plurality of positions within a radio cell” (Fig. 1 of Rogard). Rogard discloses “the network-side device comprising: means for receiving, via at least one of the network-side antennas” (Column 4, Lines 65-68 of Rogard, wherein Rogard discloses an uplink reception unit, coupled to the antenna elements to receive an uplink signal from a remote terminal). Rogard discloses “a signaling message from a mobile station or for receiving information about receipt of the signaling message from the mobile station, which signaling message was received via at least one of the network-side antennas” (Column 24, Lines 14-16 of Rogard, wherein Rogard discloses the base station responding to the random access request of the user terminal, therefore means for receiving via one of the network-side antennas). Rogard discloses “the signaling message being received in response to a request message sent to and received at the mobile station via at least one network-side antenna” (Column 4, Lines 63-65 & Column 24, Lines 14-16 of Rogard, wherein Rogard discloses a downlink transmission unit coupled to the antenna elements for transmitting data to a remote user and disclosing the base station sending a paging message and receiving a response random access request). Rogard discloses “the request message being transmitted exclusively for the purpose of requesting the signaling message” (Column 24, Lines 14-16 of Rogard).

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Rogard discloses “means for choosing transmitting network-side antennas from the plurality of network-side antennas” (Column 4, Lines 59-61 of Rogard, wherein Rogard discloses a downlink strategy to be determined based on the signals received at the antenna elements). Rogard discloses “means for causing a user data message to be transmitted to the mobile station via the transmitting network-side antennas” (Column 4, Lines 63-65 of Rogard, wherein Rogard discloses a downlink transmission unit coupled to the antenna elements for transmitting data to a remote user terminal). Rogard discloses “the transmitting network-side antennas being chosen” (Column 4, Lines 59-61 of Rogard, wherein Rogard discloses the downlink strategy to be determined based on the signals received at the antenna elements).

Rogard fails to explicitly recite “the transmitting network-side antennas being chosen as only the network-side antennas that received the signaling message from the mobile station.”

In a related field of endeavor, Nakanishi discloses “the transmitting network-side antennas being chosen as only the network-side antennas that received the signaling message from the mobile station” (Paragraph [0026] of Nakanishi, wherein Nakanishi discloses the antenna selector selecting the transmitting antenna that corresponds to the receiving antenna).

Therefore, it would have been obvious to one of ordinary to modify the invention of Rogard to incorporate the teachings of Nakanishi for the purpose of creating and maintaining good transmission quality (Paragraph [0015] & [0023] of Nakanishi).

Regarding claim 19, Rogard discloses “A computer readable medium storing a computer program for a network-side device in a radio communications system” (Column 4, Lines 33-37 of Rogard). Rogard discloses “which comprises network-side antennas distributed over a plurality of positions within a radio cell” (Fig. 1 of Rogard). Rogard discloses “the program when executed by a computer causes the computer to perform a method comprising: receiving information about receipt of a signaling message from a mobile station” (Column 24, Lines 15-18 of Rogard, wherein Rogard discloses responding with an access assignment message in response to the random access request of the user terminal). Rogard discloses “the signaling message being received at least one of the network-side antennas” (Column 4, Lines 65-68 of Rogard, wherein Rogard discloses an uplink reception unit, coupled to the antenna elements to receive an uplink signal from a remote terminal). Rogard discloses “the signaling message being received in response to a request message sent to and received at the mobile station via at least one network- side antenna” (Column 4, Lines 63-65 & Column 24, Lines 14-16 of Rogard, wherein Rogard discloses a downlink transmission unit coupled to the antenna elements for transmitting data to a remote user and disclosing the base station sending a paging message and receiving a response random access request). Rogard discloses “the request message being transmitted exclusively for the purpose of requesting the signaling message” (Column 24, Lines 14-16 of Rogard). Rogard discloses “choosing transmitting network-side antennas from the plurality of network-side antennas” (Column 4, Lines 59-61 of Rogard, wherein Rogard discloses a downlink strategy to be determined based on the signals received at the antenna

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elements). Rogard discloses “and causing a user data message to be transmitted to the mobile station via the transmitting network-side antennas” (Column 4, Lines 63-65 of Rogard, wherein Rogard discloses a downlink transmission unit coupled to the antenna elements for transmitting data to a remote user terminal). Rogard discloses “the transmitting network-side antennas being chosen” (Column 4, Lines 59-61 of Rogard, wherein Rogard discloses the downlink strategy to be determined based on the signals received at the antenna elements).

Rogard fails to explicitly recite “the transmitting network-side antennas being chosen as only the network-side antennas that received the signaling message from the mobile station.”

In a related field of endeavor, Nakanishi discloses “the transmitting network-side antennas being chosen as only the network-side antennas that received the signaling message from the mobile station” (Paragraph [0026] of Nakanishi, wherein Nakanishi discloses the antenna selector selecting the transmitting antenna that corresponds to the receiving antenna).

Therefore, it would have been obvious to one of ordinary to modify the invention of Rogard to incorporate the teachings of Nakanishi for the purpose of creating and maintaining good transmission quality (Paragraph [0015] & [0023] of Nakanishi).

6. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogard et al. (US Patent 7062294 herein after referenced as Rogard) in view of Nakanishi et al. (US Patent Publication 2004/0053582 herein after referenced as

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Nakanishi) and further in view of Lim et al. (US Patent 7209764 herein after referenced as Lim).

Regarding claim 12, Rogard in view of Nakanishi discloses "The method in accordance with claim 9, wherein the request message is transmitted via a network-side antenna of the radio cell" (Column 4, Lines 63-65 of Rogard).

Rogard in view of Nakanishi fails to explicitly recite "transmitted via all network-side antennas."

In a related field of endeavor, Lim discloses "transmitted via all network-side antennas" (Column 2, Lines 39-43 of Lim).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Rogard in view of Nakanishi to incorporate the teachings of Lim, by specifically having the paging signal sent thru all the antenna elements, for the purpose of measuring the signal strength received at the mobile device from each antenna element and thereby optimizing the system by gaining the information on which antenna element is best to use for communicating with the mobile device and finding the optimal weighted value based on the measured channel information (Column 2, Lines 39-43 of Lim).

Regarding claim 17, Rogard in view Nakanishi discloses "The method in accordance with claim 11." The examiner rejects claim 17 with the same arguments provided above (see claim 12).

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7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rogard et al. (US Patent 7062294 herein after referenced as Rogard) in view of Nakanishi et al. (US Patent Publication 2004/0053582 herein after referenced as Nakanishi) in view of Lim et al. (US Patent 7209764 herein after referenced as Lim), and further in view of Angus et al. (US Patent 6097969 herein after referenced as Angus.)

Regarding claim 13, Rogard in view of Nakanishi discloses “The method in accordance with claim 9, wherein the radio communication system has a plurality of cells, each with a plurality of network- side antennas distributed therein” (Fig. 1 of Rogard). Rogard in view of Nakanishi discloses “the request message is transmitted via a network-side antenna of the radio cell” (Column 4, Lines 63-65 of Rogard).

Rogard in view of Nakanishi fails to explicitly recite “transmitted via all network-side antennas.”

In a related field of endeavor, Lim discloses “transmitted via all network-side antennas” (Column 2, Lines 39-43 of Lim).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Rogard in view of Nakanishi to incorporate the teachings of Lim, by specifically having the paging signal sent thru all the antenna elements, for the purpose of measuring the signal strength received at the mobile device from each antenna element and thereby optimizing the system by gaining the information on which antenna element is best to use for communicating with the mobile device and finding the optimal

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weighted value based on the measured channel information (Column 2, Lines 39-43 of Lim).

Rogard in view of Nakanishi and further in view of Lim fails to explicitly recite “via all network-side antennas of all radio cells.”

Angus discloses “via all network-side antennas of all radio cells” (Column 11, Lines 21-35 of Angus, wherein Angus discloses all of the forward channel messages are transmitted by all of the base stations).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Rogard in view of Nakanishi and further in view of Lim to incorporate the teachings of Angus for the purpose of maximizing the probability that each paging message reaches the targeted paging unit (Column 11, Lines 26-30 of Angus).

8. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogard et al. (US Patent 7062294 herein after referenced as Rogard) in view of Nakanishi et al. (US Patent Publication 2004/0053582 herein after referenced as Nakanishi) and further in view of Newson et al. (US Patent 6320898 herein after referenced as Newson).

Regarding claim 15, Rogard in view of Nakanishi discloses “The method in accordance with claim 9, wherein the request message is transmitted from a plurality of network-side antennas” (Column 4, Lines 63-65 of Rogard, wherein Rogard discloses transmitting downlink data via the antenna elements). Rogard in view of Nakanishi

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discloses “the radio communication system has a plurality of cells, each with a plurality of network- side antennas distributed therein” (Fig. 1 of Rogard).

Rogard in view of Nakanishi fails to explicitly recite “and the plurality of network- side antennas used to transmit the request message reside in at least two different radio cells.”

In a similar field of endeavor, Newson discloses “and the plurality of network-side antennas used to transmit the request message reside in at least two different radio cells” (Column 2, Lines 42-44 of Newson, wherein Newson discloses “soft handoff” when the mobile moves from one base station to another, therefore two base stations in two different radio cells are transmitting the message).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Rogard in view of Nakanishi to incorporate the teachings of Newson for the purpose of enabling dynamic selection of antennas and thus minimizing transmission time and optimizing the power budget of the base station [Column 7, Lines 16-20 of Newson]

Regarding claim 16, Rogard in view of Nakanishi and further in view of Newson discloses “The method in accordance with claim 15, wherein the request message identifies the radio cell in which the network-side antenna resides” (Column 24, Lines 16-18 of Rogard, wherein Rogard discloses the base station sending an access assignment message, therefore a message that identifies the radio cell). Rogard in view of Nakanishi and further in view of Newson discloses “and the signaling message identifies the radio cell or radio cells from which the mobile station received the request

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message" (Column 24, Lines 19-25 of Rogard, wherein Rogard discloses the user terminal to send an acknowledgment signal containing identification data for use by its associated base station).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Mapa whose telephone number is (571)270-5540. The examiner can normally be reached on MONDAY TO THURSDAY 8:00AM - 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571)272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Mapa/
Examiner, Art Unit 2617

/NICK CORSARO/
Supervisory Patent Examiner, Art Unit 2617